

Appl. No. 10/822583

REMARKS

The following remarks are in response to the Office Action mailed on October 19, 2004. Upon entrance of the amendments set out above, Claims 48-67 remain pending in this application.

Claims 64 and 65 were rejected under 35 USC 112. Claims 48-50, 54-57, 59-63, 66 and 67 were rejected under 35 USC 103. Response is hereby made to these rejections. Claims 51-53, 58 and 64 were indicated as having allowable subject matter.

The 112 rejections have been addressed by adding antecedent basis for "each drop" in claim 64, and changing the dependency of claim 65 from 60 to 61.

Claim 48 was rejected under 35 USC 103 as being obvious over Ogasawara (4546234). The Examiner held that Ogasawara taught a short circuit waveform and an arc waveform, and further held that the outputs necessarily were both current and voltage waveforms.

Claim 48 has been amended to clarify that the short circuit current waveform is a waveform **controlled** to have a **desired** current waveform. In other words, the waveform does not merely happen to have a current, it is controlled to produce a desired current. Likewise, the arc waveform is **controlled** to have a **desired** voltage -- not merely a voltage that happens given the current output. Rather, during the arcing mode, the output is controlled to produce the desired voltage waveform.

Support for the voltage control waveform during arcing mode is found at page 22, line 24 - page 23, line 8, where it is stated that the voltage feedback, which produces a desired voltage waveform, is enabled during the arc mode and disabled during the short mode. Also, the current

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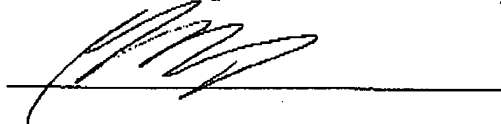
feedback, which results in a desired current waveform, is discussed, for example, at page 25 line 9-20.

The cited art teaches an output having a desired current during both the arcing and shorting modes (see, Col. 4 of USP 4546234). It does not teach a waveform having a controlled and desired voltage profile. While the output of Ogasawara does have a voltage, that voltage is not controlled or desired -- it is merely the voltage resulting from the desired current.

Accordingly, claim 48, and thus claims 49-54 should be allowed. The remaining independent, claims 55 and 61, have similar limitations, and thus all claims should be allowed.

Accordingly, in view of the above amendments and remarks, Applicants respectfully submit that the application should be allowed. The Examiner is invited to telephone the undersigned below if it will aid in the prosecution of this application.

Respectfully Submitted



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